

(Modified) PTO/SB/08A-B (10-96)  
Approved for use through 10/31/99. OMB 0851-0031

Substitute for form 1449A-B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)	<b>Complete if Known</b>	
	Application Number	09/725,324
	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Leong
	Group Art Unit	<del>Unassigned</del> 1631
	Examiner Name	<del>Unassigned</del> Smith
	Attorney Docket Number	02-108010US

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
CS	AA	5,512,463		Stemmer	04-30-1996	
	AB	5,614,588		Varadaraj	05-07-1996	
	AC	5,605,793		Stemmer	02-25-1997	
	AD	5,763,239		Short et al.	06-09-1998	
	AE	5,789,228		Lam et al.	08-04-1998	
	AF	5,811,238		Stemmer et al.	09-22-1998	
	AG	5,814,473		Warren et al.	09-29-1998	
	AH	5,824,469		Horwitz et al.	10-20-1998	
	AI	5,830,696		Short	11-03-1998	
	AJ	5,830,721		Stemmer et al.	11-03-1998	
	AK	5,834,252		Stemmer et al.	11-10-1998	
	AL	5,837,458		Minushull et al.	11-17-1998	
	AM	5,866,363		Pieczenik	02-02-1999	
	AN	5,876,997		Kretz	03-02-1999	
	AO	5,925,749		Mathur, et al.	07-20-1999	
	AP	5,928,905		Stemmer, et al.	07-27-1999	
	AQ	5,939,250		Short, Jay M.	08-17-1999	
	AR	5,939,300		Robertson, et al.	08-17-1999	
	AS	5,942,430		Robertson, et al.	08-24-1999	
	AT	5,948,666		Calien, et al.	09-07-1999	
	AU	5,958,672		Short, Jay M.	09-28-1999	
	AV	5,958,751		Murphy, et al.	09-28-1999	
	AW	5,962,258		Mathur, et al.	10-05-1999	
	AX	5,962,283		Warren et al.	10-05-1999	
	AY	5,965,408		Short, Jay M.	10-12-1999	
	AZ	5,985,646		Murphy, et al.	11-16-1999	
✓	BA	6,001,574		Short et al.	12-14-1999	
Examiner Signature	<i>Carly SR</i>			Date Considered	5/19/03	

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(Modified) PTO/SB/08A-B (10-06)  
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	Application Number	09/725,324
	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Leong
	Group Art Unit	Unassigned 1631
	Examiner Name	Unassigned Smith
	Attorney Docket Number	02-108010US

CS	BB	6,004,788		Short	12-21-1999	
	BC	6,030,779		Short	02-29-2000	
	BD	6,054,267		Short	04-25-2000	
	BE	6,057,103		Short	05-02-2000	
	BF	6,096,548		Stemmer	08-01-2000	
	BG	6,117,679		Stemmer	09-12-2000	
	BH	6,132,970		Stemmer	10-17-2000	
	BI	6,165,793		Stemmer	12-26-2000	
	BJ	6,168,919		Short	01-02-2001	
	BK	6,171,820		Short	01-09-2001	
	BL	6,174,673		Short, et al.	01-16-2001	
✓	BM	6,180,406		Stemmer	01-30-2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
CS	BN	WO	97/07205		Novo Nordisk A/S	02-27-1997		
	BO	WO	97/20078		Affymax Technologies	06-05-1997		
	BP	WO	97/25410		Novo Nordisk A/S	07-17-1997		
	BQ	WO	97/35957		Maxygen, Inc.	10-02-1997		
	BR	WO	97/35966		Maxygen, Inc.	10-02-1997		
	BS	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
	BT	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
	BU	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
	BV	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		
✓	BW	WO	98/00526		Recombinant Biocatalysis Inc	01-08-1998		

Examiner Signature	<i>Carly Smith</i>	Date	5/19/03
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CS	BX	WO	98/01581		Recombinant Biocatalysis Inc	01-15-1998		
	BY	WO	98/13485		Maxygen, Inc.	04-02-1998		
	BZ	WO	98/13487		Maxygen, Inc.	04-02-1998		
	CA	WO	98/24799		Diversa Corp.	06-11-1998		
	CB	WO	98/27230		Maxygen, Inc.	06-25-1998		
	CC	WO	98/28416		Novo Nordisk A/S	07-02-1998		
	CD	WO	98/31837		Maxygen, Inc.	07-23-1998		
	CE	WO	98/36080		The Dow Chemical Company	08-20-1998		
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	CH	WO	98/41653		Novo Nordisk A/S	09-24-1998		
	CI	WO	98/42832		California Institute of Technology	10-01-1998		
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	CN	WO	99/10472		Diversa Corp.	03-04-1999		
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	CT	WO	99/23107		Maxygen, Inc.	05-14-1999		
	CU	WO	99/23236		Diversa Corp.	05-14-1999		
	CV	EP	0934999A1		Maxygen, Inc.	08-11-1999		
↓	CW	WO	99/41368		Maxygen, Inc.	08-19-1999		

Examiner Signature	<i>Carly Smith</i>	Date Considered	5/19/03
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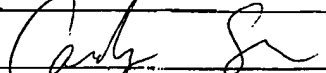
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CS	CX	WO	99/41369		Maxygen, Inc.	08-19-1999		
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	DA	WO	99/45154		Diversa Corp.	09-10-1999		
	DB	WO	99/57128		Maxygen, Inc.	11-11-1999		
	DC	WO	99/65927		Maxygen, Inc.	12-23-1999		
	DD	WO	00/42560		Maxygen, Inc.	07-20-2000		
	DE	WO	00/42561		Maxygen, Inc.	07-20-2000		
	DF	WO	00/53744		Diversa Corporation	09-14-2000		
✓	DG	WO	00/58517		Diversa Corporation	10-05-2000		

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), date of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume/issue number(s), publisher, city and/or country where published.	T
CS	DH	Chang, C., et al. (1999) "Evolution of a cytokine using DNA family shuffling." <u>Nature Biotechnology</u> 17:793-797.	
	DI	Christians, F.C. et al., (1999) "Directed evolution of thymidine kinase for AZT phosphorylation using DNA family shuffling." <u>Nature Biotechnology</u> 17:259-264.	
	DJ	Coco et al., (2001) "DNA shuffling method for generating highly recombined genes and evolved enzymes" <u>Nature Biotechnology</u> , vol. 19 pp. 354-359	
	DK	Cramer et al., (1993) "10(20)-Fold aptamer library amplification without gel purification," <u>Nuc. Acids Res.</u> 21(18):4410.	
	DL	Cramer, A. & Stemmer W.P.C. (1995) "Combinatorial multiple cassette mutagenesis creates all the permutations of mutant and wildtype cassettes." <u>Biotechniques</u> 18:194-195.	
	DM	Cramer, A. et al. (1996) "Improved green fluorescent protein by molecular evolution using DNA shuffling." <u>Nature Biotechnology</u> 14:315-319.	
	DN	Cramer, A. et al. (1996) "Construction and evolution of antibody-phage libraries by DNA shuffling." <u>Nature Medicine</u> 2:100-103.	
	DO	Cramer, A. et al., (1997) "Molecular evolution of an arsenate detoxification pathway by DNA shuffling." <u>Nature Biotechnology</u> 15:436-438	
✓	DP	Cramer, A. et al., (1998) "DNA shuffling of a family of genes from diverse species accelerates directed evolution." <u>Nature</u> 391:288-291.	
	DQ	Gates, C.M. et al., (1996) "Affinity selective isolation of ligands from peptide libraries through	


Examiner Signature		Date	5/19/03
		Considered	

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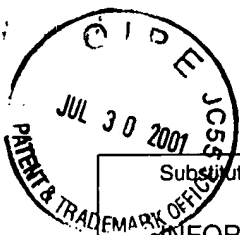
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	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Leong
	Group Art Unit	Unassigned 1671
	Examiner Name	Unassigned Smith
	Attorney Docket Number	02-108010US

CS		display on a lac repressor 'headpiece dimer'. <u>Journal of Molecular Biology</u> 255:373-386.	
	DR	Minshull, J., Stemmer, W.P.C. (1999) "Protein evolution by molecular breeding." <u>Current Opinion In Chemical Biology</u> 3:284-290.	
	DS	Ness, J. et al., (1999) "DNA shuffling of subgenomic sequences of subtilisin." <u>Nature Biotechnology</u> 17:893-896.	
	DT	Patten, P.A. et al., (1997) "Application of DNA Shuffling to Pharmaceuticals and Vaccines." <u>Current Opinion In Biotechnology</u> 8:724-733.	
	DU	Pelletier, Joelle N., (2001) "A Rachitt for our toolbox" <u>Nature Biotechnology</u> vol. 19, p. 314-315	
	DV	Stemmer, W.P.C. (1994) "DNA Shuffling by random fragmentation and reassembly: In vitro recombination for molecular evolution." <u>PNAS</u> 91:10751	
	DW	Stemmer, W.P.C. (1994) "Rapid evolution of a protein in vitro by DNA shuffling." <u>Nature</u> 370:389-391.	
	DX	Stemmer, W.P.C. (1995) "The Evolution of Molecular Computation." <u>Science</u> 270:1510	
	DY	Stemmer, W.P.C. (1995) "Searching Sequence Space." <u>Bio/Technology</u> 13:549-553.	
	DZ	Stemmer, W.P.C. (1996) "Sexual PCR and Assembly PCR." In: <u>The Encyclopedia of Molecular Biology</u> . VCH Publishers, New York. pp. 447-457.	
	EA	Stemmer, W.P.C. & Soong, N.W. (1999) "Molecular breeding of viruses for targeting and other clinical properties." <u>Tumor Targeting</u> 4:59-62.	
✓	EB	Zhang, J. et al., (1997) "Directed evolution of an effective fucosidase from a galactosidase by DNA shuffling and screening." <u>Proceedings of the National Academy of Sciences, USA</u> 94:4504-4509.	

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	Application Number	09/725,324
	Filing Date	November 28, 2000
	First Named Inventor	St v n R. L ong
	Group Art Unit	Unassigned 1631
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Attorney Docket Number	02-108010US	

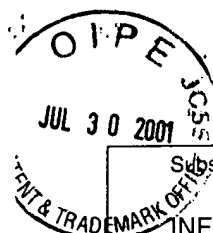
U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
CS	AA	4,683,202		Mullis	04-28-1987	
	AB	5,641,662		Debs et al.	06-24-1997	
	AC	5,279,833		Rose	01-18-1994	
	AD	5,001,065		Larrick et al.	03-19-1991	
	AE	5,830,650		Crea	11-03-1998	
	AF	5,798,208		Crea	08-25-1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
CS	AG	WO	00/46344	A2	Diversa Corp.	08-10-2000		
	AH	WO	00/46344	A3	Diversa Corp.	08-10-2000		
	AI	WO	98/42727	A1	SRI International	10-01-1998		
	AJ	EP	0 527 809	B1	Crea	04-05-1991		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
CS	AK	ALTSCHUL ET AL. (1990) "Basic Local Alignment Search Tool." J. Mol. Biol. 215:403-410	
	AL	ARKIN AND YUUVAN (1992) "Optimizing nucleotide mixtures to encode specific subsets of amino acids for semi-random mutagenesis. Biotechnology 10:297-300	
	AM	BASS ET AL. (1988) "Mutant Trp repressors with new DNA-binding specifications," Science 242:240-245	
	AN	BOTSTEIN AND SHORTLE (1985) "Strategies and applications in invitro mutagenesis." Science 229:1193-1201	
	AO	BREYER AND SAUER (1989) "Mutational analysis of the fine specificity of binding of monoclonal antibody 51F to lambda repressor." J. Biol. Chem 264:13355-13360	
	AP	CADWELL ET AL. (1992) "Randomization of Genes by PCR Mutagenesis." PCR Methods Applications 2:28-33	
	AQ	CARTER (1986) "Site -directed mutagenesis." Biochem. J. 237:1-7	

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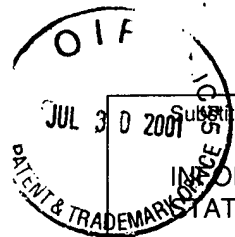
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	Examiner Name	Unassigned Smith
	Attorney Docket Number	02-108010US

CS	AR	CARTER (1987) "Improved oligonucleotide-directed mutagenesis using M13 vectors." Methods in Enzymol 154:382-403	
	AS	CARTER ET AL. (1985) "Improved oligonucleotide site-directed mutagenesis using M13 vectors." Nucl. Acids Res. 13:4431-4443	
	AT	CHATELAIN ET AL. (1992) "IL-4 Induces a Th2 Response in <i>Leishmania major</i> -Infected Mice." J. Immunol 148:1182-1187	
	AU	CHEN ET AL. (1994) "Gene therapy for brain tumors: Regression of experimental gliomas by adenovirus-mediated gene transfer in vivo." Proc. Natl. Acad. Sci. USA 91:3054-3057	
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	AW	De Vries and Punnonen (1996) "In Cytokine regulation of humoral immunity: basic and clinical aspects." Eds. Snapper C.M. John Wiley & Sons, LTD West Sussex UK p. 195-215	
	AX	DEVERGNE ET AL. (1997) "Epstein-Barr virus-induced gene 3 and the p35 subunit of Interleukin 12 form a novel heterodimeric hematopoietin." Proc. Nat'l Acad. Sci USA 94:12041-12046	
	AY	EGHTEDARZADEH AND HENIKOFF (1986) "Use of oligonucleotides to generate large deletions." Nucl. Acids Res. 14:5115	
	AZ	FENG & DOOLITTLE (1987) "Progressive Sequence Alignment as a Prerequisite to Correct Phylogenetic Trees." J. Mol. Evol. 35:351-360	
	BA	FOSS ET AL (1997) "Molecular cloning and mRNA expression of porcine interleukin-12." <i>Veterinary Immunology and Immunopathology</i> 57 :121-134	
	BB	FOSS ET AL. (1995) "Cloning and Characterization of Porcine Interleukin-12" <i>Unpublished</i> (XP-002165227)	
	BC	FRITZ ET AL. (1988) "Oligonucleotide directed construction of mutations: a gapped duplex DNA procedure without enzymatic reactions in vitro." Nucl. Acids. Res. 16:6987-6999	
	BD	GATELY ET AL. (1996) "Interleukin-12 Antagonist Activity of Mouse Interleukin-12 p40 Homodimer in Vitro and in Vivo." Ann. NY Acad. Sci. 795:1-12	
	BE	GATELY ET AL. (1998) "The Interleukin-12/ Interleukin-12-Receptor System: Role in Normal and Pathologic Immune Response." Annu. Rev. Immunol. 16:495-521	
	BF	GRUNDSTROM ET AL. (1985) "Oligonucleotide-directed mutagenesis by microscale 'shot-gun' gene synthesis." Nucl. Acids Res. 13:3305-3316	
	BG	HENIKOFF AND HENIKOFF (1992) "Amino acid substitution matrices from protein blocks." Proc. Nat'l. Acad. Sci. USA 89:10915-10919	
	BH	KARLIN AND ALTSCHUL (1993) "Applications and statistics for multiple high-scoring segments in molecular sequences." Proc. Nat'l. Acad. Sci. USA 90:5873-5887	

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STATEMENT BY APPLICANT

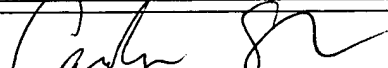
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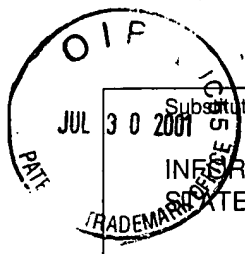
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	BJ	KRAMER ET AL. (1984) "The gapped duplex DNA approach to oligonucleotide directed mutation construction." Nucl. Acids. Res. 12:9441-9456	
	BK	Kramer et al. (1994) "Different Base/Base Mismatches Are Corrected with Different Efficiencies by the Methyl-Directed DNA Mismatch-Repair System of E. coli." Cell 38:879-887	
	BL	KRAMER ET AL. (1998) "Improved enzymatic in vitro reactions in the gapped duplex DNA Approach to oligonucleotide directed construction of mutations." Nucl. Acids. Res. 16:7207	
	BM	KUNKEL (1985) "Rapid and efficient site-specific mutagenesis without phenotype selection." Proc. Nat'l Acad. Sci. UDS 82:448-492	
	BN	KUNKEL (1987) "Rapid and efficient site-specific mutagenesis without phenotype selection." Methods in Enzymol." 154:367-382	
	BO	LEUNG ET AL. (1989) "A Method for Random Mutagenesis of a Defined DNA segment Using a Modified Polymerase Chain Reaction." Technique 1:11-15	
	BP	LING ET AL. (1994) "Human IL-12 p40 Homodimer Binds to the IL-12 Receptor but Does Not Mediate Biologic Activity." J. Immunol 154:116-127	
	BQ	LING ET AL. (1997) "Approaches to DNA Mutagenesis: an Overview." Anal Biochem. 254(2):157-178	
	BR	LOGAN AND SHENK (1984) "Adenovirus tripartite leader sequence enhances translation of mRNAs late after infection." Proc. Natl. Acad Sci 81:3655-3659	
	BS	MANDECK (1986) Oligonucleotide-directed double-strand break repair in plasmids of Escherichia coli: a method for site-specific mutagenesis." Proc. Nat'l Acad. Sci. USA 83:7177-7181.	
	BT	MILLER ET AL. (1990) "Gene Transfer by Retrovirus Vectors Occurs Only in Cells That Are Actively Replicating at the Time of Infection." Mol. Cell Biol. 10(8):4239 (1990)	
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	BV	MURPHY ET AL. (1985) "γ Interferon and Lymphotoxin, Released by Activated T Cells, Synergized to Inhibit Granulocyte/Monocyte Colony Formation." Journal of Experimental Medicine 164:263-279	
	BW	MURRAY, E. ET AL. (1989) "Codon usage in plant genes." Nuc. Acids Res. 17:477-508	
	BX	NAMBIAR ET AL. (1984) "Total synthesis and cloning of a gene coding for the ribonuclease S protein." Science 223:1299-1301	
✓	BY	PAUL AND SEDER (1994) "Lymphocyte Responses and Cytokines." Cell 76:241-251	

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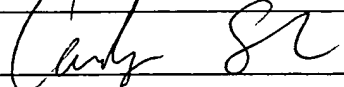


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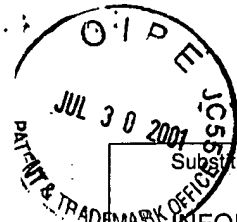
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Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)	Complete if Known	
	Application Number	09/725,324
	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Leong
	Group Art Unit	Unassigned 1631
	Examiner Name	Unassigned Smith
Attorney Docket Number	02-108010US	

CS	BZ	PEARSON AND LIPMAN (1998) "Improved tools for biological sequences comparison." Proc. Nat'l Acad. Sci. USA 85:2444-2448	
	CA	PORATH ET AL. (1992) "Immobilized Metal Ion Affinity Chromatography." Protein Expression and Purification 3:263-281	
	CB	PUNNONEN AND DE VRIES (1994) "IL-13 Induces Proliferation, Ig Isotype Switching, and Ig Synthesis by Immature Human Fetal B Cells." Journal of Immunology 152: 1094	
	CC	RAKHMILEVICH ET AL. (1999) "Gene Gun-Mediated IL-12 Gene Therapy Induces Antitumor Effects in the Absence of Toxicity: A Direct Comparison With Systemic IL-12 Protein Therapy." J. Immunother 22(2):135-144	
	CD	REIDHAAR-OLSON ET AL. (1991) "Random Mutagenesis of protein sequences using oligonucleotide cassettes." Method in Enzymol 208:564-586	
	CE	SAYERS ET AL. (1988) "Strand specific cleavage of phosphorothioate-containing DNA by reaction with restriction endonucleases in the presence of ethidium bromide." Nucl. Acids. Res. 16:803-814	
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	CG	SMITH (1985) "In Vitro Mutagenesis." Ann. Rev. Genet 19:423-462	
	CH	SMITH AND WATERMAN (1981) "Compatison of Biosequences." Adv. Appl. Math 2:428-489	
	CI	SOONG ET AL. (2000) "Molecular Breeding of Viruses." Nature Genetice 25:436-439	
	CJ	SUN ET AL. (1998) "Vaccination with IL-12 gene-modified autologous melanoma cells: preclinical results and a first clinical phase I Study." Gene Ther. 5(4): 481-490	
	CK	THOMPSON ET AL. (1994) "CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penlities and weight matrix choice." Nucl. Acids Res. 22:4673-4680	
	CL	TRINCHIERI AND SCOTT (1999) "Current Topics in Microbiology and Immunology." Curr. Top. Microbiol. Immunol 238:57-78	
	CM	VAN HEEKE & SCHUSTER (1989) "Expression of Human Asparagine Synthetase in Eschichia coli." J. Bio Chem. 264:5503-5509	
	CN	WELLS (1985) "Cassette mutagenesis: an efficient method for generation of multiple mutations at defined sited." Gene 34:315-323	
	CO	WELLS ET AL. (1986) "Importance of hydrogen-bond formation in stabilizing the transition state of subtilisin." Phil Trans. R. Soc. Lond A 317:415-423	
	CP	WILSON I. ET AL. (1984) "The Structure of an Antigenic Determinant in a Protein." Cell 37:767-778	

Examiner Signature		Date Considered	5/19/03
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Substitute for form 1449A-B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)	Complete if Known	
	Application Number	09/725,324
	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Leong
	Group Art Unit	Unassigned [L3]
	Examiner Name	Unassigned [L3]
Attorney Docket Number		02-108010US

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CS	CQ	WOLFF ET AL. (1990) "Direct Gene Transfer into Mouse Muscle in Vivo." Science 247:1465-1468	
	CR	WU AND WU (1998) "Receptor-mediated Gene Delivery and Expression in Vivo." J. Biol. Chem. 263:14621-14624	
	CS	ARKIN AND YOUNG (1992) "An algorithm for protein engineering: Simulations of recursive ensemble mutagenesis." Proc. Nat'l. Acad. Sci. USA 89:7811-7815	
	CT	ZHANG, S.P. ET AL. (1991) "Low-uage codons in Escherichia coli, yeast, fruit fly and primates." Gene 105:61-72	
	CU	ZOLLER AND SMITH (1982) "Oligonucleotide directed mutagenesis using M13-derived vectors." Nucleic Acid Res. 10:6487-6500	
	CV	ZOLLER AND SMITH (1983) "Oligonucleotide directed mutagenesis of DNA fragments cloned into M13 vectors." Methods in Enzymol 100:468-500	
	CW	ZOLLER AND SMITH (1987) "Oligonucleotide directed mutagenesis: a simple method using two oligonucleotide primers and a single-stranded DNA template." Methods in Enzymol 154:329-350	
↓	CX	ZOU ET AL. (1995) "Structure-Function Analysis of the p35 Subunit of Mouse Interleukin 12" The Journal of Biological Chemistry 270(11):5864-5871	

Examiner Signature		Date Considered	5/19/03
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Substitute for form 1449A-B/PTO <b>COMPLETE INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> OCT 07 2002 (use as many sheets as necessary)	<b>Complete if Known</b>	
	Application Number	09/725,324
	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Leong
	Group Art Unit	1644 1631
	Examiner Name	Unassigned S.M.R.
Attorney Docket Number		0152.210US (formerly 02-108010US)

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
CS	AA	5,348,867		Georgiou et al.	09/20/1994	
	AB	5,457,038		Trinchieri et al.	10/10/1995	
	AC	5,569,454		Trinchieri et al.	10/29/1996	
	AD	5,648,072		Trinchieri et al.	07/15/1997	
	AE	5,648,467		Trinchieri et al.	07/15/1997	
	AF	5,650,492		Gately et al.	07/22/1997	
	AG	5,665,347		Metzger et al.	09/09/1997	
	AH	5,766,914		Deits	06/16/1998	
	AI	5,811,523		Trinchieri et al.	09/22/1998	
	AJ	5,853,714		Deetz et al.	12/29/1998	
	AK	5,891,680		Lieschke et al.	04/06/1999	
	AL	5,922,685		Rakhmilevich et al.	07/13/1999	

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Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
CS	AM	EP	0 433 827	B1	F. Hoffmann-La Roche AG	06/26/1991		
	AN	EP	0 441 900	B1	Genetics Institute, Inc. et al.	08/21/1991		
	AO	WO	99/41368	A2	Maxygen, Inc.	08/19/1999		
	AP	WO	99/41369	A2	Maxygen, Inc.	08/19/1999		
	AQ	WO	99/41383	A2	Maxygen, Inc.	08/19/1999		
	AR	WO	99/41402	A2	Maxygen, Inc.	08/19/1999		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
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CS	AS	Chang, C.-C.J., et al., "Evolution of a cytokine using DNA family shuffling," Nature Biotechnology 17:793-797 (1999)	

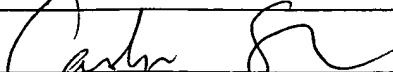
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	Application Number	<b>09/725,324</b>
	Filing Date	<b>November 28, 2000</b>
	First Named Inventor	<b>Steven R. Leong</b>
	Group Art Unit	<b>1644 1631</b>
	Examiner Name	<b>Unassigned Smith</b>
Attorney Docket Number		<b>0152.210US (formerly 02-108010US)</b>

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

CS	AT	Chaplin, P.J., et al., "Production of Interleukin-12 as a Self-Processing 2A Polypeptide," J. Interferon Cytokine Research 19:235-241 (1999)	
	AU	Collins, R.A., et al., "Bovine interleukin-12 and modulation of IFN $\gamma$ production," Veterinary Immunology and Immunopathy 68:193-207 (1999)	
	AV	Cramer, A., et al., "DNA shuffling of a family of genes from diverse species accelerates directed evolution," Nature 391:288-291 (1998)	
	AW	Foss, D.L., et al., "Molecular cloning and mRNA expression of porcine interleukin-12," Veterinary Immunology and Immunopathy 57:121-134 (1997)	
	AX	Foss, D.L., et al., "Sus scrofa interleukin-12 mRNA, complete cds.," Database EMBL [Online] Accession number U08317, XP002165227 (April 19, 1995)	
	AY	Kokuho, T., et al., "Production of biologically active, heterodimeric porcine interleukin-12 using a monocistronic baculoviral expression system," Veterinary Immunology and Immunopathy 72:289-302 (1999)	
	AZ	Leong S.R., et al., "Maximizing the genetic diversity by molecular breeding: Evolution of DNA vaccine vectors and adjuvant cytokines." 1999 Winter Biotechnology Conference: Molecular Approaches to Vaccine Design, Cold Spring Harbor, NY, Dec 2-5, 1999	
	BA	Minshall, J., et al., "Protein evolution by molecular breeding," Current Opinion in Chemical Biology 3(3):284-290 (June 1999)	
	BB	Oppmann, B., et al., "Novel p19 Protein Engages IL-12p40 to Form a Cytokine, IL-23, with Biological Activities Similar as Well as Distinct from IL-12," Immunity 13:715-725 (2000)	
	BC	Patten, P.A., et al., "Applications of DNA shuffling to pharmaceuticals and vaccines," Pharmaceutical Biotechnology 8:724-733 (1997)	
	BD	Punnonen, J., "Molecular Breeding of Allergy Vaccine and Antiallergic Cytokines," Int. Arch. Allergy Immunol. 121:173-182 (March 2000)	
	BE	Punnonen, J., et al., "Molecular Breeding by DNA Shuffling," Science & Medicine 7(2):38-47 (March/April 2000)	
	BF	Punnonen, J., et al., "Evolution of DNA vaccine vectors, antigens, and adjuvant cytokines by DNA shuffling." Keystone Symposia on Molecular and Cellular Biology, DNA Vaccines: Immune Responses, Mechanisms and Manipulating Antigen Processing" Snowbird, UT, April 12-17, 1999.	
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	Filing Date	November 28, 2000
	First Named Inventor	Steven R. Le ng
	Group Art Unit	1644 1631
	Examiner Name	Unassigned Smith
	Attorney Docket Number	0152.210US (formerly 02-108010US)

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

CS	BI	Swinburne, S.J., et al., "Ovine Interleukin 12 has biological activity on ovine and human activated peripheral blood mononuclear cells," Cytokine, 12(10):1546-1552 (2000)	
J	BJ	Yoon, C., et al., "Charged residues dominate a unique interlocking topography in the heterodimeric cytokine interleukin-12," The EMBO Journal 19(14):3530-3541 (2000)	
J	BK	Zou, J.J., et al., "Structure-Function Analysis of the p35 Subunit of Mouse Interleukin 12," J. of Biological Chemistry 270(11):5864-5871 (1995)	

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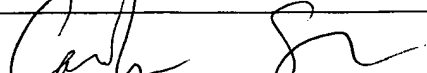
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CS ↓ ✓	AA	Kukuho, T. et al. "Production of biologically active, heterodimeric porcine interleukin-12 using a monocistronic baculoviral expression system," Vet. Immunol. Immunopathol., 72:289-302 (1999).		
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